How to install EPSON Scanner on LINUX?

INTRODUCTION

There are two possibilities to use and install EPSON Scanner on LINUX :

- Install EPSON Image Scan! For Linux
- Install other backends that support EPSON Scanners

Image Scan! For Linux is a software that provides Graphical User Interface for scanning with your EPSON Scanner. It includes the driver – called backend (epkowa) – and the graphical interface which enables you to scan in black & white.

In this manual we will show how to install and troubleshoot your EPSON Scanner on Linux.

Image Scan! For Linux provides the following licenses:

- GNU General Public License
- GNU Lesser General Public License
- EPSON KOWA Public License

1) Supported Scanners with Image Scan! For Linux

Here is the list of supported scanners in Image Scan! For Linux.
For the latest updates please check the following link :
http://www.epkowa.co.jp/english/linux_e/dl_scan.html

The list of supported scanners

- Perfection 610
- Perfection 640U
- Perfection 1200S
- Perfection 1200U
- Perfection 1200U PHOTO
- Perfection 1240U
- Perfection 1250
- Perfection 1250 PHOTO
- Perfection 1260
- Perfection 1260 PHOTO
- Perfection 1640SU
- Perfection 1640SU PHOTO
- Perfection 1650
- Perfection 1650 PHOTO
- Perfection 1660 PHOTO
- Perfection2400 PHOTO
- Perfection 2450 PHOTO
- Perfection 3170 PHOTO
- Perfection 3200 PHOTO
- Perfection 4870 PHOTO
- Expression 1600
- Expression 1680
- Expression 1640XL
- GT-10000
- GT-10000+
- GT-15000
- GT-30000

2) Installing Image Scan! For Linux

In this section we will explain how to install Image Scan! For Linux.

You have to install SANE Package before going on with installation steps.
Find more information on SANE on http://www.sane-project.org
SANE package are included also in your Linux distribution and can be installed from installation CD

Steps

1) Make sure you have SANE packages installed

   You check if you have SANE packages installed by the following command:

   $ rpm –qa ¦ grep sane

2) If SANE is installed you can check the installed version by the following command:

   $ sane-config --version

The minimum required sane version is 1.0.3 or later. The current one is 1.0.13 which is required for some scanners that do not work with Epson backend – for instance: Perfection 1670 works only with snapscan backend.

3) If SANE is not installed download the packages or the source file from www.sane-project.org or install it from the CD

4) Download Iscan Software from EPSON KOWA (http://www.epkowa.co.jp/english/linux_e/index.html)

   You can download either rpm package or source file which needs to be compiled.

   We recommend to install it with rpm package.

   Type the following command when download finished:

   $ rpm –ivh iscan-1.8-2.i386.rpm

   the version number (1.8-2.i386) can change. This is just an example.

5) If an old version of Iscan is installed you may update the existing version by doing:

$ rpm –U iscan-1.8-2.i386.rpm

You may encounter some problems during the iscan installation.
Please refer to the sections hereafter for troubleshooting your scanner installation and see if your scanner is supported on Linux!

It is possible that some dependency errors occur during the software installation. In that case try to satisfy the dependencies by installing all packages.

If it is really impossible to install by rpm for any reason try to install with the source code.

1) Download iscan source code
2) Unzip it

$ gzip –d iscan.tar.gz

$ tar xvf iscan.tar

3) do ‘configure’

$ cd /to/directory/where/you/unzipped
$ ./configure
$ make
$ make install

3) Uninstalling Image Scan! For Linux

If you want to uninstall Image Scan! For Linux you can do it with the following command:

$ rpm –e iscan

If you encounter some problems during removal process you may use --nodeps option and try to remove the package

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4) Starting Image Scan! For Linux

Before proceeding make sure the following steps are followed:

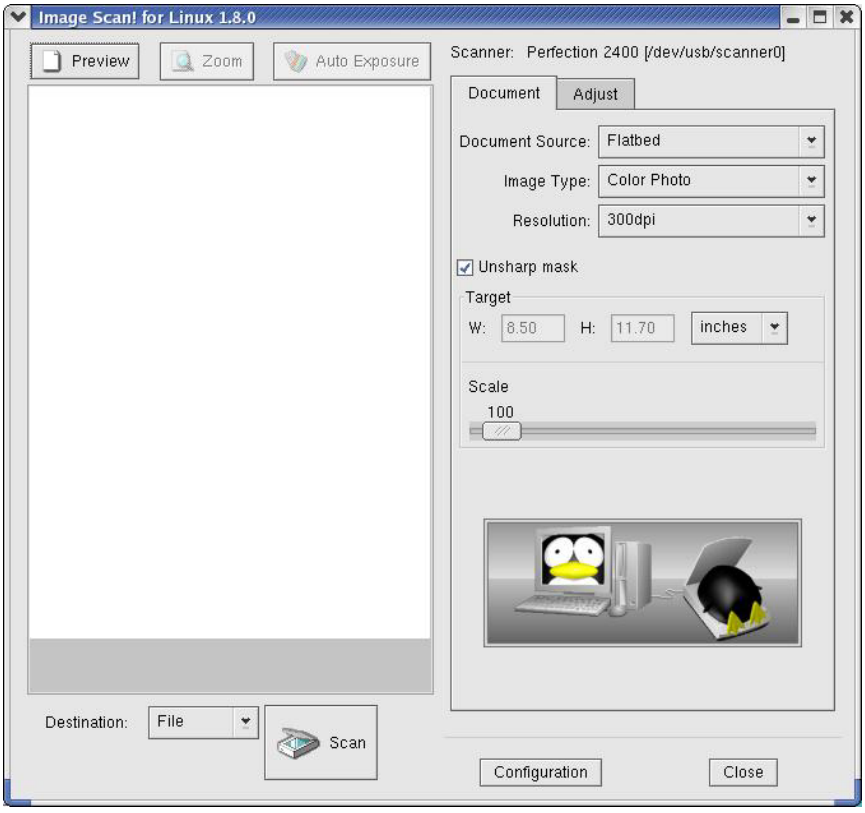
1) You plugged-in your scanner and it's on
2) Your scanner is ready and operational
3) Iscan has been installed and is working
4) All steps described in previous sections are completed

Now, you can start Iscan:

From the command line do:

$ iscan

If your scanner is correctly detected you should see the following screen:

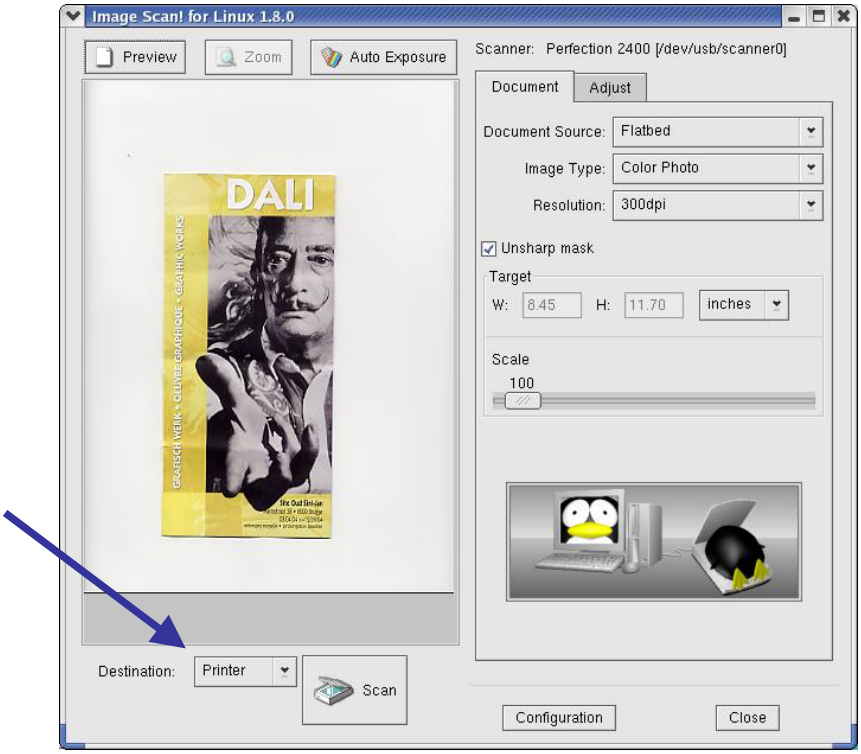


If your scanner is not detected and you have the message: 'Scanner not found' please refer to the *Troubleshooting* section.

5) Scanning with Image Scan! For Linux

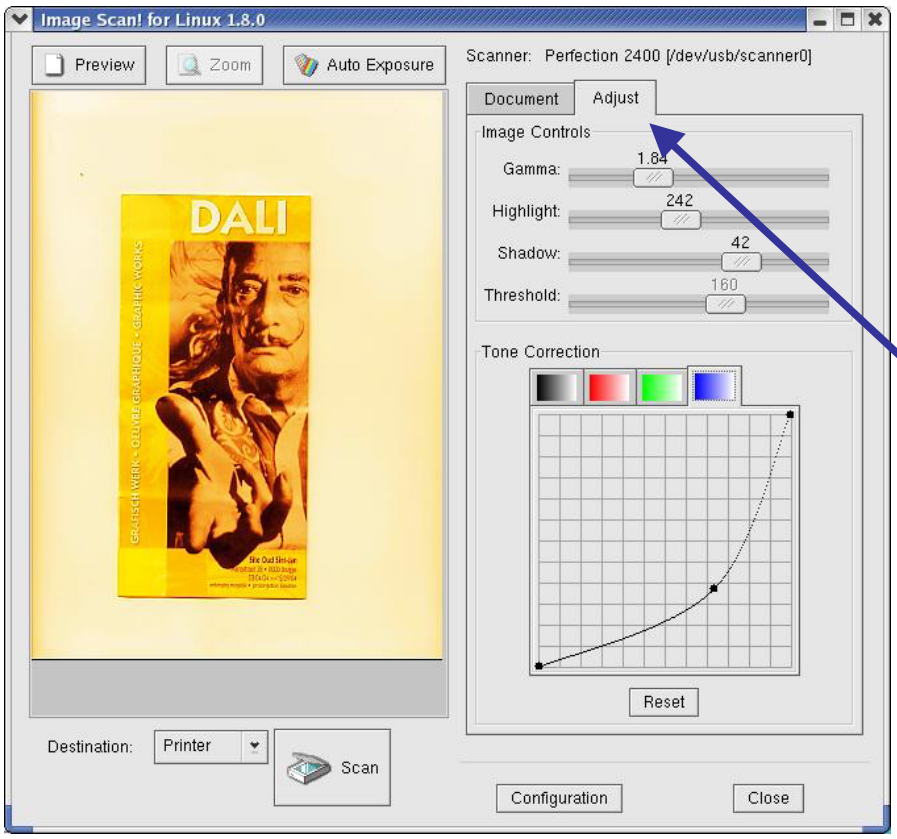
Now, you can start scanning.

You can choose your destination ‘file’ or ‘Printer’ and do ‘Preview’.



If some EPSON Scanners are not supported by Image Scan it does not mean they are not working on Linux.
They may work with other backends.

You can adjust many settings with Image Scan!



6) Network Scanning

It is possible to scan over network with Sane and Iscan for Linux.

First step

You need to configure on the server's side the clients that are allowed to scan via network:

For instance to add a client from 172.17.79.100 edit the file:

/etc/sane.d/saned.conf

and put:

scan-client
172.17.79.100

Note

You can have more information on saned.conf by using man pages!

It is necessary to uncomment the line epkowa in /etc/sane.d/dll.conf!

Second step

You need to configure the client.

Uncomment two lines in /etc/sane.d/dll.conf

net
epkowa #needed by iscan

and put the server's IP address in /etc/sane.d/net.conf file

for instance:

scan-server
172.17.79.200

Third step

It is necessary to check /etc/services file on the client's side and see if the line:

Sane 6566/tcp # SANE network scanner daemon

Is present.

On the server's side, the same check should be done.
The line:

sane stream tcp nowait root.root /usr/sbin/saned saned

should be present in /etc/inetd.conf

then, restart the inetd : $ /etc/init.d//inetd restart

These steps should be done by Image Scan!
However, you can check if all lines are present in case of troubles.

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7) Troubleshooting Scanner installation and FAQs

I) Troubleshooting

What to do if your scanner does not work?
Here are some points to check in order to try to find out why the scanner does not work.

- First, check if your scanner is supported or not with Image Scan!
  If it is supported then see if you have correct SANE packages installed on your system and that all requirements are filled in

  If your EPSON Scanner is not supported please see the section 'Supported Scanners on LINUX' at the end of this document.

The list is updated on www.sane-project.org
Please consult it for latest updates as well as the list of supported Scanners by Image Scan! – see EPSON Kowa web site for the latest updates

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- try the following command to see if your scanner is recognized by the system:

$ sane-find-scanner

This will report you if your scanner has been found or not.

The result should be:

'found USB scanner (vendor=0x04b8, product=0x011b) at /deb/usb/scanner0'

- If your scanner has not been found, you can check the content of the system file:

$ cat /proc/bus/usb/devices

Try to identify the lines (for example):

P: Vendor=04b8 ProID=011b Rev=1.00
S: Manufacturer=EPSON
S: Product=EPSON Scanner

- You can also try to see if scanner module is loaded into your system:

$ lsmod

Module	Size	Used by	Not tainted
scanner	*11224*	*0*	
radeon	12321	2	

- If your scanner is not loaded you can try to load it into the memory by the following command:

(this is an example for Perfection 2400 Photo)

$ modprobe scanner vendor=0x04b8 product=0x011b

- Another possibility is to check the log files

$ dmesg

this will give you some information on buses, general system information/errors. It can be very useful to see system logs and messages issued during the system power on.

- All SANE configuration files are stored in */etc/sane.d/*

You will see many files in this directory corresponding to different manufacturers.
Check files corresponding to EPSON Scanners: epkowa.conf and epson.conf and be sure The right setting are checked/unchecked inside.

For instance, if you have USB Scanner make sure the line *scsi EPSON* in **epkowa.conf** is commented – otherwise, the driver will try to get information from SCSI bus.The same for epson.conf

Another important file is **dll.conf** which contains the list of all drivers supported by SANE.
You can comment those you are not using.

If you are using Network scanning option do not comment "net" line!

II) Frequently Asked Questions

This section describes some practical cases of Scanner installation failure.
We will show some concrete examples of how to install EPSON devices on Linux.

a) How to install the Epson Cx3200 device without recompiling the whole kernel under Linux?

Description :

You can have some problems if trying to install Epson Cx3200 on Linux system and recompiling the kernel which is necessary to install Cx3200.
To avoid this you can install Epson Cx3200 without recompiling the whole kernel under Linux.

Countermeasure:

Become root or su and edit
"/usr/src/linux-2.4.19-16mdk/drivers/usb/scanner.c" as follows:
find the lines:

```
if (dev->config[0].bNumInterfaces != 1) {
        info("probe_scanner: Only one device interface is supported.");
        return NULL;
}
```

and make the lines inactive as shown below.

```
/*      if (dev->config[0].bNumInterfaces != 1) {
*               info("probe_scanner: Only one device interface is supported.");
*               return NULL;
*       }
*/
```

*After this create a new directory to a place of your choice i.e:
"/usr/src/modules"

*copy "/usr/src/<kernelversion>/drivers/usb/scanner.c" and
"/usr/src/<kernelversion>/drivers/usb/scanner.h"
to the above mentioned directory.

*Then compile a new module as follows, ofcourse as root:
"gcc -DMODULE -D__KERNEL__ -I/usr/src/linux/include -include
/usr/src/linux/include/linux/modversions.h -c scanner.c"

this will result in a "scanner.o" file.

Copy this file to "/lib/modules/2.4.19-16mdk/kernel/drivers/usb"

Do a "rmmod scanner" as root.

If the modules are compressed and look like "scanner.o.gz"
then remove the original file and create with gnozip or ark a new archive
file "scanner.o.gz" and add the "scanner.o" to it.

Another example:

*After this is finished insert the new module with:
"modprobe scanner vendor=0x04b8 product=0x0802"

This should be enough to get the scanner up if you then select the scanner
of choice. In this case Epson perfection 1200U (for another scanner change product id!)

b) Automate scanner recognition on Linux

Description :

After getting your scanner to work on Linux it could be very annoying to enter modprobe command every time you reboot.

Modprobe is used to load a set of modules, either a single module, a stack of dependent modules, or all modules that are marked with a specified tag.

You have to do the following steps:

In **"/etc/modules.conf**" file you have to add the following line:

options scanner vendor=0x04b8 product=0x010f

(0x04b8=EPSON and 0x010f= Perfection 1260 Photo)

in the file **"/etc/init.d/boot.local"** you have to add the following line:

modprobe scanner

Now, your scanner should be loaded automatically every time you reboot.

c) How to install Epson Perfection 1260 on DEBIAN Linux distribution and make it work with iscan (Epson scanning tool) ?

Description:

Iscan is Epson scanning tool that permits you to use Epson scanners on LINUX. In DEBIAN Linux distribution (version 3.0, kernel 2.4.18) Epson Perfection 1260 is not supported by default and its configuration needs to be included in Linux environment in order to be fully supported.

Countermeasure:

Here are the steps you have to do in order to make it work :

First step is to install iscan tool on Debian and modify some settings:

Download iscan-x.x.x-x.i386.rpm , not the source tarball.

Now transform rpm package to debian package with alien command:

2.) alien -d iscan-x.x.x-x.i386.rpm

you can install the package with dpkg command

3.) dpkg -i iscan-x.x.x-x.i386.deb (the resulting deb file from step 2)
4.) cd /usr/lib/sane
5.) (as root) rm libsane-epson.so libsane-epson.so.1 (these are symbolic links)

the library links need to be modified:

6.) (as root) ln -s libsane-epsonkw.so.1.0.6 libsane-epson.so
7.) (as root) ln -s libsane-epsonkw.so.1.0.6 libsane-epson.so.1
8.) (as root) echo "libsane hold" | dpkg --set-selections (to prevent overwrite by future upgrades)

this is an optional command

9.) (as root) ln -s /usr/bin/iscan /usr/lib/gimp/1.2/plug-ins/ (to use iscan from within the gimp)

Second step is to change kernel declaration which includes Perfection 1260 :

1) Do all steps as described previously
2) You'll have to recompile your kernel in order to make it work

- First thing is to install kernel sources 2.4.18 – if they are already installed they should be in /usr/src/

3) In /usr/src/your_kernel_sources/scanner.h add the following line where all EPSON scanners are declared:

{ USB_DEVICE(0x04b8, 0x011d) }, /* Perfection 1260 Photo */

3) do cd /usr/src/your_kernel_sources
4) make xconfig - just press save and exit
5) make dep (to build all dependencies)
6) make modules (to build modules)
7) make modules_install (to install modules)
8) reboot
9) type modprobe scanner vendor=0x04b8 product=0x011d
(vendor id 0x04b8 = EPSON, and product id 0x011d = Perfection 1260)

* modprobe command is used for loading modules.

d) How to make work Perfection 1250 on Debian Linux version 3.0r0?

Description:

If you try to use Epson Perfection scanner on Debian Linux version 3.0r0 it will not work. The following message will be send: 'Can't send a command to scanner'

Solution:

You need to recompile the kernel in order to make it work:

1) Go to your kernel sources directory in ***/usr/src/your_kernel_sources/drivers/usb/***
2) Add the following line to scanner.h file:

```
{ USB_DEVICE(0x04b8, 0x010f) },    /* Perfection 1250  */
```

Then, recompile the modules with the command:

$ make modules
$ make modules_install

you can reboot and the launch ***iscan*** tool or you can do

modprobe scanner vendor=0x04b8 product=0x010f

e) Why iscan, scanning tool does not want to start on my LINUX : ‘Xlib connection to “0:0” refused by server?

If you want to use iscan, scanning tool for LINUX and you are trying to execute it you may have the following message on your machine:

root#> iscan
Xlib: connection to ":0.0" refused by server
Xlib: No protocol specified
Gtk-WARNING **. CAN NOT DISPLAY: :0.0

Solution

The Xlib message regarding the display :0.0 is because you don't have the authority to connect to the X dsplay (Windows display daemon) --not even being root.

You can allow local connections by saying **xhost +local:** as the user owning the display.

After this, you will be able to use iscan without any problem.

f) Why I got an error message on iscan-1.5.2 on Suse 7.3: Could not send command with EPSON 1240U scanner?

Description:

Download iscan-1.5.2 source for gcc 2.9.x.
Compiling iscan – you shouldn't have any problems.

But starting iscan it only shows "Could not send command to scanner".

The file "/etc/sane.de/epson.conf" contains "usb /dev/usb/scanner0".

Mode of this file is 777.

lsmod shows scanner-module loaded correctly.

The scanner is a 1240U.

The file "/etc/sane.d/dll.conf" contains one line with "epson" in it.

Solution

You have to add word '**epkowa'** in the file /etc/sane.d/dll.conf in order to get it working.

g) How to install Perfection 1670 and make it work on Red Hat 9?

Solution:

Here are the steps:

1) Uninstall current sane-backends (on RH9 it's 1.0.9)
2) Uninstall all sane packages related to 1.0.9
(this is not mandatory but better to have a clean system)

3) Download from www.sane-project.org the 1.0.13 sane-backends version and compile it on your system doing:

$ ./configure
$ make
$ make install

You should have /usr/local/etc/sane.d directory created where all your backends are situated.

Next step, is to comment all files in dll.conf by putting # in front of every line.

(if you don't wont to type everything you can do with vi :1,$ s/^/#/ this will replace all first spaces with # character)

Next step is to extract a bin file from the driver.. This is necessary for **snapscan** backend, which is the only one that supports this scanner.

You have to place it somewhere on your system and configure your snapscan.conf file to point to that bin file (the bin file is included in the Windows driver of Perfection 1670 scanner – ESFW30.bin – install Scanner driver on Windows and search for ESF30.bin file)

You have also to change snapscan.conf file:
** Uncomment line /dev/usb/scanner0

Finally, you can try for instance (after installing the latest sane-frontends) :
$ xscanimage

h) How to install Perfection 1670 and make it work on Suse?

Here is the procedure:

1) Uninstall Sane 1.08 + XSANE packages

$ rpm -e xsane-x.x.x.
$ rpm -e sane-x.x.x.

2) Install Sane backends 1.0.13

ftp://ftp.de.mostang.com/pub/sane/sane-backends-1.0.13/sane-backends-1.0.13.tar.gz

then compile:

$ gzip -d sane-backends-1.0.13.tar.gz
$ tar xvf sane-backends-1.0.13.tar
$ ./configure
$ make
$ make install

3) Comment all lines in **'dll.conf'** file in **/usr/local/etc/sane.d** directory

You should have /usr/local/etc/sane.d directory created where all your backends are situated.
Next step, is to comment all files in dll.conf by putting # in front of every line.
(if you don't wont to type everything do in vi :1,$ s/^/#/ this will replace all first spaces with # character)

4) Uncomment **'snapscan'** line
5) Edit **'snapscan.conf'** file in **/usr/local/etc/sane.d** directory

Change line 'firmware /path/to...' TO
'firmware /temp/ESFW30.BIN'

I send you this file.

6) Uncomment line "#/dev/usb/scanner0 bus=usb"

Supported Scanners on LINUX'

Here is the list of the supported EPSON scanners on Linux.
This can be found on www.sane-project.org

Note

Backend = driver
Status = good/untested/complete/unsupported
You will find in comment column some remarks concerning the scanner

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Model	Interface	Status	Comment	Backend	Manpage
Actionscanner II	Parport	good	US version of GT-5000	epson (0.2.32)	sane-epson
CX-3200	USB	untested		epson (0.2.32)	sane-epson
CX-5200	USB	untested		epson (0.2.32)	sane-epson
ES-300C	SCSI Parport	good	US version of GT-6000	epson (0.2.32)	sane-epson
ES-600C	Parport	good	US version of GT-6500	epson (0.2.32)	sane-epson
ES-1200C	Parport	good	US version of GT-9000	epson (0.2.32)	sane-epson
ES-8500	SCSI	good		epson (0.2.32)	sane-epson
Expression 636	SCSI	complete	US version of GT-9500	epson (0.2.32)	sane-epson
Expression 800	SCSI	complete		epson (0.2.32)	sane-epson
Expression 1600	SCSI USB IEEE-1394	complete		epson (0.2.32)	sane-epson
Expression 1680	SCSI USB IEEE-1394	complete		epson (0.2.32)	sane-epson

FilmScan 200	SCSI	unsupported	A better backend for the FilmScan 200 can be found at http://www.vjet.demon.co.uk/scanner/	epson (0.2.32)	sane-epson
GT-5000	Parport	good		epson (0.2.32)	sane-epson
GT-5500	SCSI	good		epson (0.2.32)	sane-epson
GT-6000	SCSI Parport	good		epson (0.2.32)	sane-epson
GT-6500	Parport	good		epson (0.2.32)	sane-epson
GT-7000	SCSI	good		epson (0.2.32)	sane-epson
GT-8000	SCSI	good		epson (0.2.32)	sane-epson
Perfection 600	SCSI	good	OK, SCSI-ID=EPSON Perfection600	umax (1.0-40)	sane-umax
Perfection 610	USB	complete		epson (0.2.32)	sane-epson
Perfection 636S	SCSI	complete	US version of GT-7000	epson (0.2.32)	sane-epson
Perfection 636U	USB	complete		epson (0.2.32)	sane-epson
Perfection 640	USB	complete		epson (0.2.32)	sane-epson
Perfection 660	USB	good		SnapScan (1.4)	sane-snapscan
Perfection 1200Photo	USB	complete	with TPU	epson (0.2.32)	sane-epson
Perfection 1200S	SCSI	complete		epson (0.2.32)	sane-epson
Perfection 1200U	USB	complete		epson (0.2.32)	sane-epson
Perfection 1240	SCSI USB	complete		epson (0.2.32)	sane-epson
Perfection 1250	USB	complete		plustek (0.46)	sane-plustek
Perfection 1250Photo	USB	good	TPA scans not perfect	plustek (0.46)	sane-plustek
Perfection 1260	USB	complete		plustek (0.46)	sane-plustek
Perfection 1260Photo	USB	good	TPA scans not perfect	plustek (0.46)	sane-plustek

Perfection 1640	SCSI USB	complete		epson (0.2.32)	sane-epson
Perfection 1650	USB	complete		epson (0.2.32)	sane-epson
Perfection 1660	USB	complete		epson (0.2.32)	sane-epson
Perfection 1670	USB	basic		SnapScan (1.4)	sane-snapscan
Perfection 2400	USB	complete		epson (0.2.32)	sane-epson
Perfection 2450	USB IEEE-1394	complete		epson (0.2.32)	sane-epson
Perfection 3170	USB	unsupported	Probably unsupported. Support is planned by the (external) epkowa backend. Seems to neither use Epson nor Benq protocol. Details appreciated.	unsupported (2003-11-15)	?
Perfection 3200	USB	complete	US version of the GT-9800	epson (0.2.32)	sane-epson